Generic Properties Program
(for the FloBoss™ 107)

User Manual

QER09Q022

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1 INTRODUCTION

1.1 Scope and Organization

This document serves as the user manual for the Generic Properties program (QER09Q022), which is intended for use in a FloBoss 107 (FB107). This manual describes how to download, install, and configure the Generic Properties user program (referred to as the "Generic Properties program" or "the program" throughout the rest of this manual). You access and configure this program using ROCLINK™ 800 Configuration Software loaded on an IBM-compatible personal computer running Windows® 2000 (with Service Pack 2), XP, or Vista.

The sections in this manual provide information in a sequence appropriate for first-time users. Once you become familiar with the procedures and the software, the manual becomes a reference tool.

This manual has the following major sections:

- *Chapter 1 – Introduction*
- *Chapter 2 – Installation*
- *Chapter 3 – Configuration*
- *Chapter 4 – Reference*

This manual assumes that you are familiar with the FB107 and its configuration. For more information, refer to the *FloBoss 107 Flow Manager Instruction Manual* (Form A6206) or the *ROCLINK 800 Configuration Software User Manual (for FloBoss 107)* (Form A6217).

1.2 Product Overview

The Generic Properties program for the FB107 disables the on-board AGA8 properties calculations and allows you to manually enter gas or liquid properties or copy them from another TLP source. A separate flow calculation program uses these values for its calculation. Properties that can be manually entered or copied from another TLP source include base density, flowing density, viscosity, heating value, and specific heat ratio.

1.3 Program Requirements

You download the Generic Properties program to—and then run it from—the Flash and RAM memory on the FB107. The Generic Properties program is compatible with firmware version 1.21 (or greater) of the FB107. Download and configure the program using the ROCLINK 800 Configuration software (version 1.83 or greater).

Program specifics include:

File Name	Target Unit/ Version	User Defined Point (UDP)	Flash Used (in bytes)	DRAM Used (in bytes)	ROCLINK 800 Version	Display Number
GenericProperties_3.bin	FB107 1.21	27	3155	16384	1.83	28

Note: You must connect a PC to the FB107's LOI port before starting the download.

For information on viewing the memory allocation of user programs, refer to *ROCLINK 800 Configuration Software User Manual (for FloBoss 107)* (Form A6217).

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2 INSTALLATION

This section provides instructions for installing the Generic Properties program. Read *Section 1.3* of this manual for program requirements.

2.1 Downloading the Program

This section provides instructions for installing the program into the Flash memory on the FB107.

To download the program using ROCLINK 800 software:

1. Connect the FB107 to your computer using the LOI port.
2. Start and logon to ROCLINK 800.
3. Select **Utilities** > **User Program Administrator** from the ROCLINK menu bar. The User Program Administrator screen displays (see *Figure 1*):

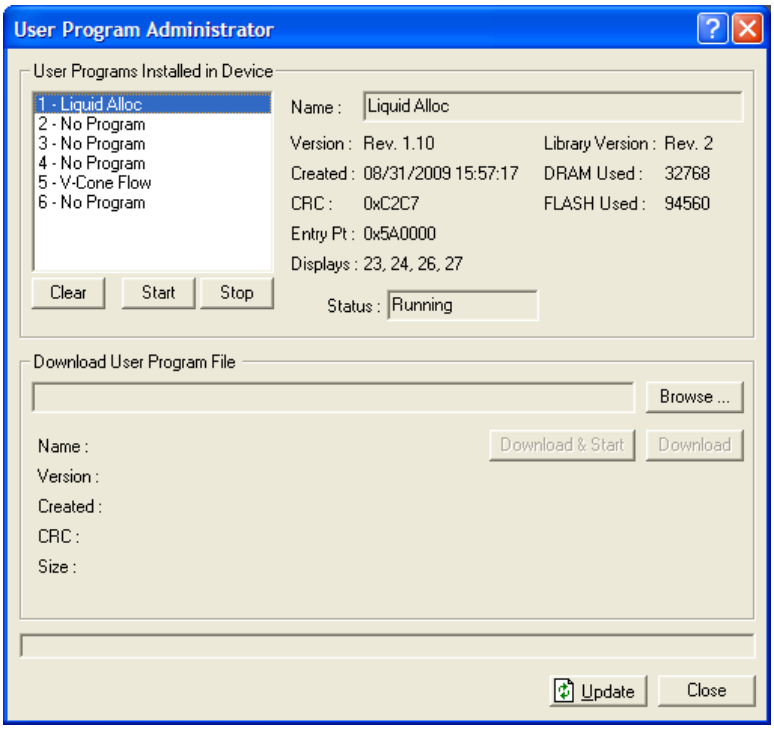

Figure 1. User Program Administrator

4. Click **Browse** in the Download User Program File frame. The Select User Program File screen displays (see *Figure 2*).
5. Select the path and user program file to download from the CD-ROM. (Program files are typically located in the Program Files folder on the CD-ROM). As *Figure 2* shows, the screen lists all valid user program files with the .BIN extension:

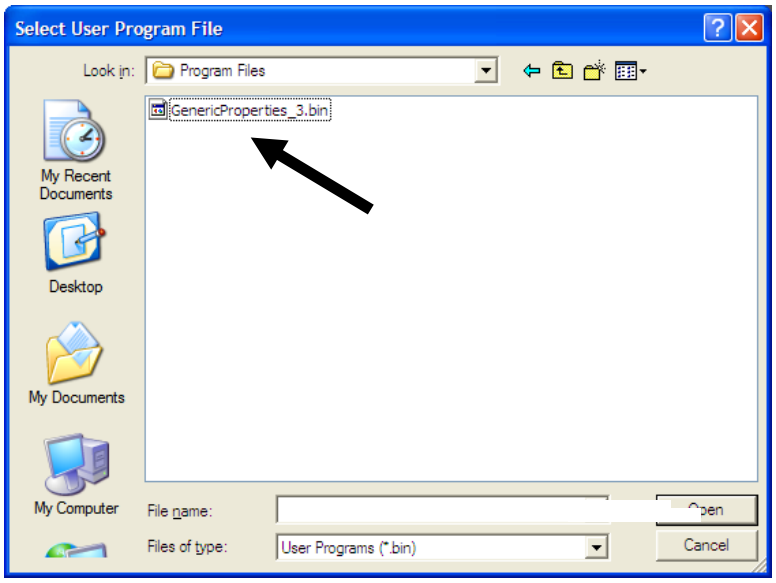

Figure 2. Select User Program File

6. Click **Open** to select the program file. The User Program Administrator screen displays. As shown in *Figure 3*, note that the Download User Program File frame identifies the selected program and that the **Download & Start** button is active:

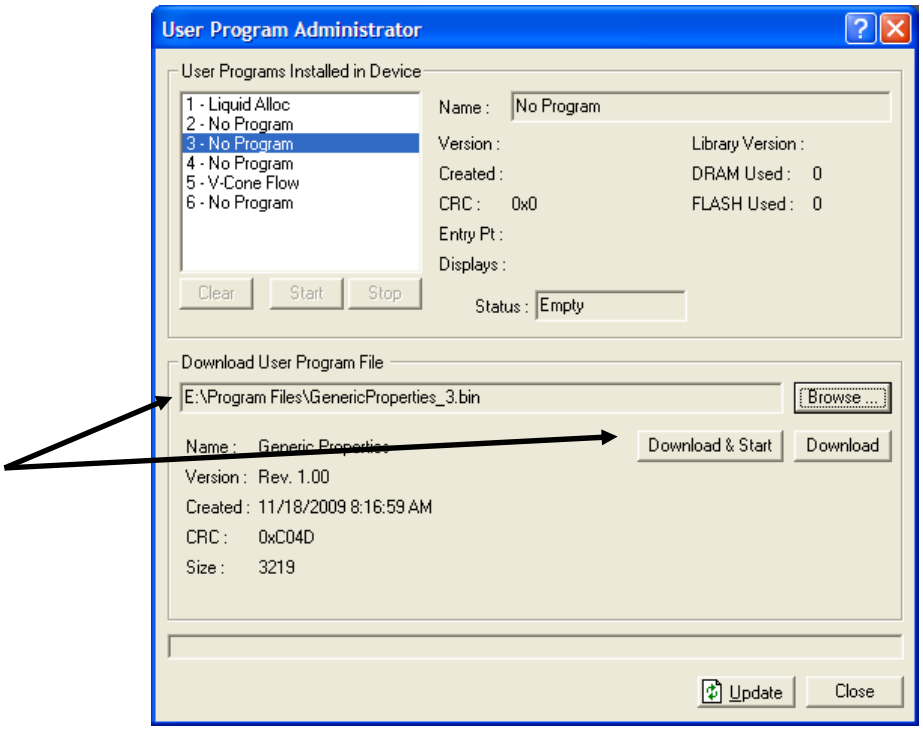

Figure 3. User Program Administrator

7. Click **Download & Start** to begin loading the selected programs. The following message displays:

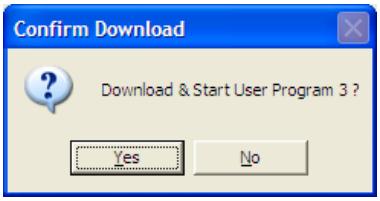

Figure 4. Confirm Download

8. Click **Yes** to begin the download. When the download completes the following message displays:

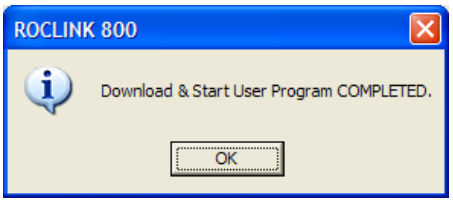

Figure 5. ROCLINK 800 Download Confirmation

9. Click **OK**. The User Program Administrator screen displays (see *Figure 6*). Note that:
   - The User Programs Installed in Device frame identifies the installed program(s).
   - The Status field indicates that the program is running.

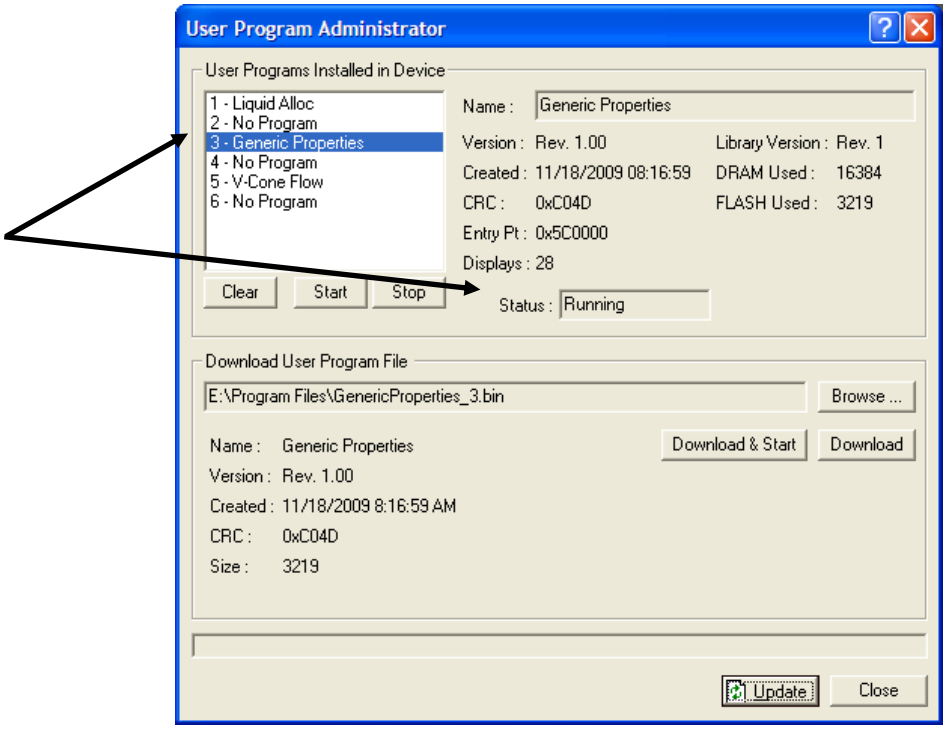

Figure 6. User Program Administrator

10. Click **Close**. The ROCLINK 800 screen displays and the download is complete.

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3 CONFIGURATION

After you have loaded the Generic Properties program on the FB107, you configure and monitor the program using one program-specific display (Generic Properties Setup). Use the Generic Propties Setup screen to enable the program and configure the parameters associated with the Generic Properties program.

You can access the program-specific screen from the main ROCLINK 800 screen:

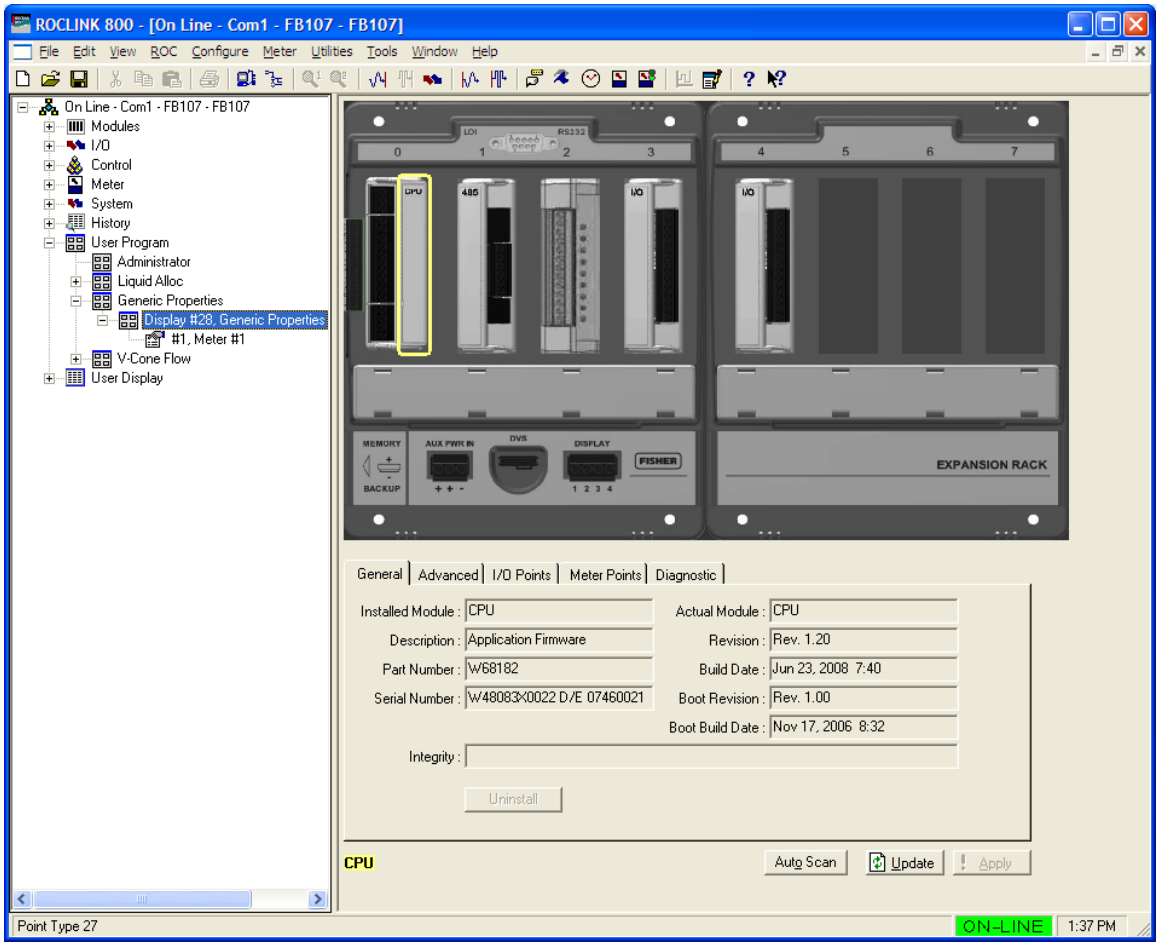

Figure 7. ROCLINK 800

3.1 Generic Properties Setup Screen

Use this screen to enable the Generic Properties program to set the densities, viscosity, heating value, and specific heat ration for the selected meter run.

To access this screen:

1. Select **User Program > Generic Properties.**
2. Select **Display #28, Generic Properties**.
3. Double-click **#1, Meter #1**. The following Generic Properties Setup screen displays.

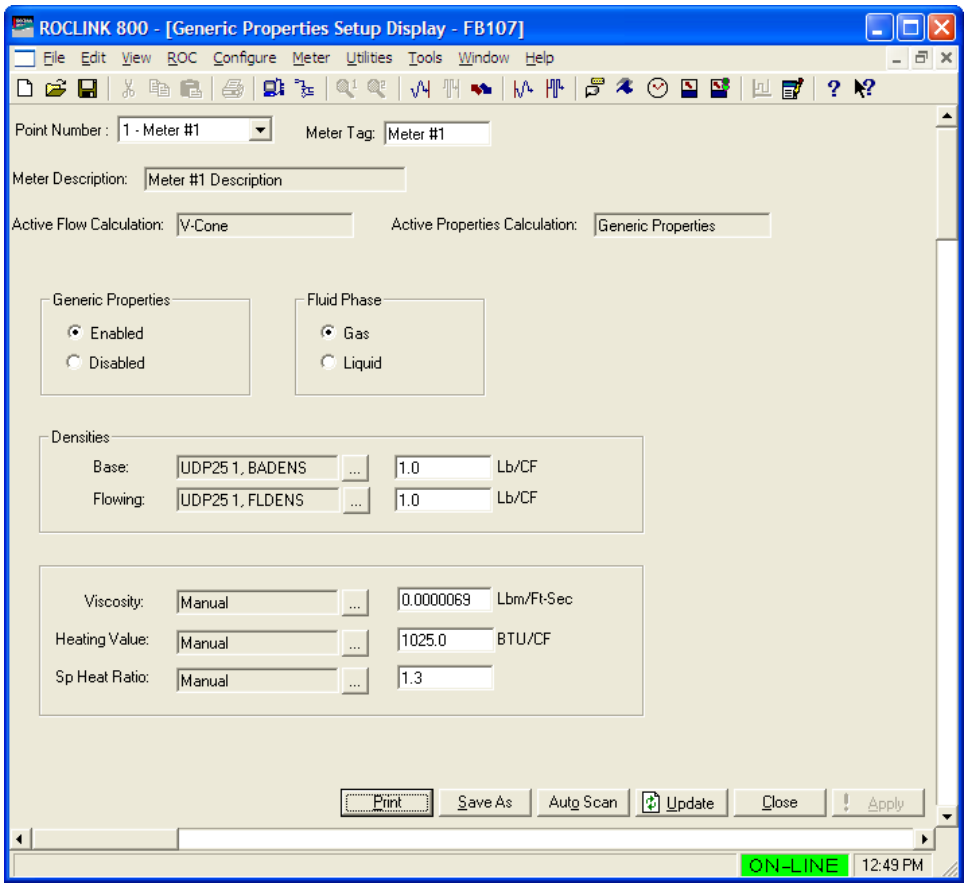

Figure 8. Generic Properties Setup Screen

4. Review the values in the following fields:

Field	Description
Point Number	Selects the logical number of the meter run to view. Click ▼ to display all defined instances.
Meter Tag	This **read-only** field shows the unique identifier for the selected meter.
Meter Description	This **read-only** field shows the description of the selected meter.
Active Flow Calculation	This **read-only** field shows the flow calculation standard currently performing flow calculations for the selected meter run.
Active Properties Calculation	This **read-only** field shows the properties calculation standard currently performing property calculations for the selected meter run.

Field	Description
Generic Properties	Sets the status of the Generic Properties program for the selected meter run. Valid selections are Enabled or Disabled.
Fluid Phase	Sets the physical state of the fluid flowing through the selected meter. This selection is used by the active flow calculation. Valid selections are Gas or Liquid.
Densities – Base	Sets the density at base conditions. Click … to display the Select TLP screen and specify the TLP selection used to obtain this value or manually enter a value. The units are Lb/CF or Kg/M3.
Densities – Flowing	Sets the density at flowing conditions. Click … to display the Select TLP screen and specify the TLP selection used to obtain this value or manually enter a value. The units are Lb/CF or Kg/M3.
Viscosity	Sets the viscosity. Click … to display the Select TLP screen and specify the TLP selection used to obtain this value or manually enter a value. The units are Lbm/Ft-Sec or Cp.
Heating Value	Sets how the system determines the heating value of the gas. Click … to display the Select TLP screen and specify the TLP selection used to obtain this value or manually enter a value. The units are BTU/CF, BTU/Lb, MJ/M3, or MJ/Kg.
Sp Heat Ratio	Sets the specific heat ratio of the gas (defined as the specific heat of the gas at constant pressure divided by the specific heat of the gas at constant volume). Click … to display the Select TLP screen and specify the TLP selection used to obtain this value or manually enter a value. **Note:** Accepted practice for natural gas applications is to use a value of 1.3, which was used to develop the expansion factor tables in the AGA 3 Report – Part 3.

5. Proceed to *Section 3.2* to save the configuration.

3.2 Saving the Configuration

Whenever you modify or change the configuration, it is a good practice to save the final configuration to memory. To save the configuration:

1. Select **ROC** > **Flags**. The Flags screen displays:

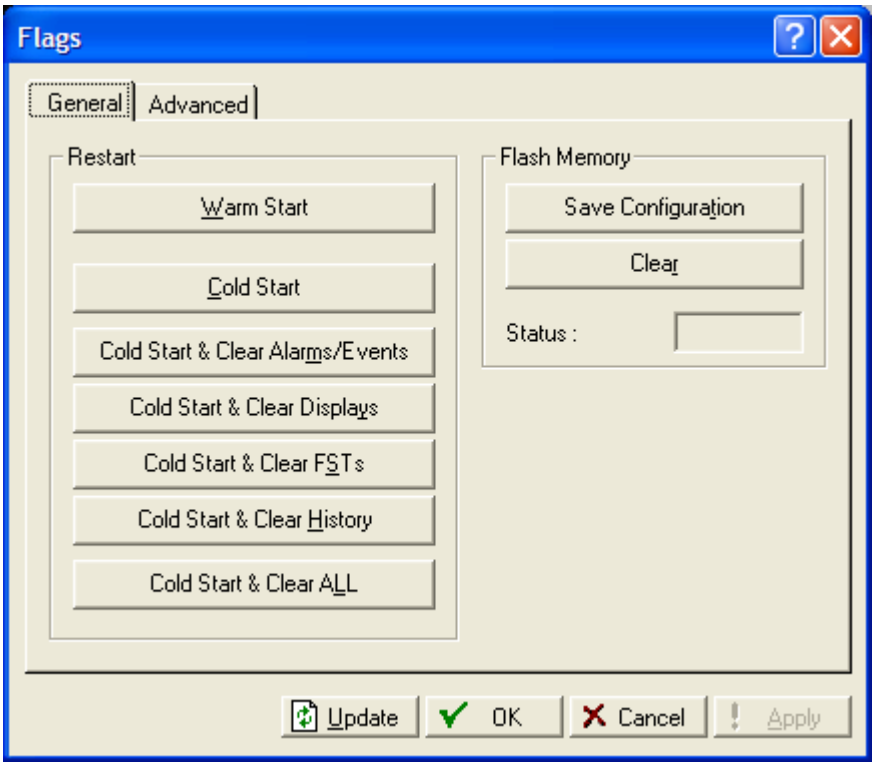

Figure 9. Flags

2. Click **Save Configuration**. A verification message displays:

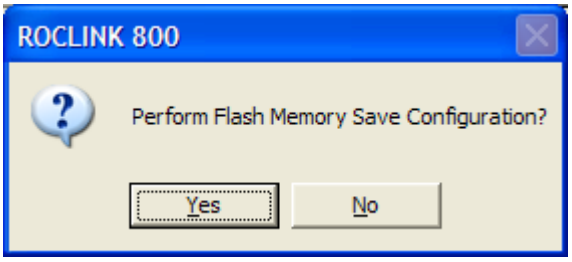

Figure 10. Save Verification

3. Click **Yes.** When the save process completes, a confirmation message displays:

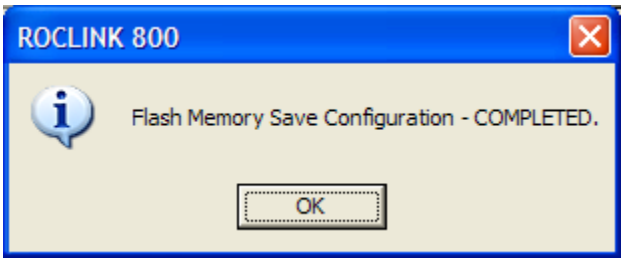

Figure 11. Confirmation

Note: Depending on the size and complexity of the user program, this process may take several minutes. When the process ends, the Status field on the Flags screen displays *Completed*.

4. Click **Update** on the Flags screen. This completes the process of saving your new configuration.

Note: For archive purposes, you should also save this configuration to your PC's hard drive or a removable media (such as a diskette or a flash drive) using the **File** > **Save Configuration** option on the ROCLINK 800 menu bar.

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4 REFERENCE MATERIALS

This section provides additional information plus tables of parameters for the user-defined point type used by the Generic Properties program.

- Point Type 27: Generic Props

4.1 Point Type 27: Generic Props Setup

Point type 27 contains the parameters for configuring the Generic Properties program. There are four logicals of this point type (one logical for each meter run).

Point Type 27: Generic Props Setup

Parm #	Name	Access	Data Type	Length	Range	Default	Description of functionality and meaning of values
0	Point Tag ID	R/O	AC	10	0x20 -> 0x7E for Each ASCII character	" "	Point tag identification. This value is copied from point type 46, parameter 0.
1	Program Control	R/W	UINT8	1	0-1	0	Enables or Disables the Generic Properties Program. 0=Disable, 1=Enable
2	Fluid Phase	R/W	UINT8	1	0-1	0	Specifies the Phase of the Fluid. 0=Gas, 1=Liquid. This parameter signals the active flow calculation program of the Phase of Fluid.
3	Base Density	R/W	FLOAT	4	Any valid floating point value	1.0	Base Density of the liquid or gas. This parameter is copied to the corresponding Meter Run's Base Density (TLP: 47, X, 25) for use by the active flow calculation.
4	Base Density Source TLP	R/W	TLP	3	Any valid floating point type TLP	0,0,0	Specifies the source TLP for the Base Density. 0,0,0 = Manual entry, T,L,P = parameter that will be copied to the above Base Density Parameter.
5	Flowing Density	R/W	FLOAT	4	Any valid floating point value	1.0	Flowing Density of the liquid or gas. This parameter is copied to the corresponding Meter Run's Flowing Density (TLP: 47, X, 24) for use by the active flow calculation.
6	Flowing Density Source TLP	R/W	TLP	3	Any valid floating point type TLP	0,0,0	Specifies the source TLP for the Flowing Density. 0,0,0 = Manual entry, T,L,P = parameter that will be copied to the above Flowing Density Parameter.
7	Heating Value	R/W	FLOAT	4	Any valid floating point value	1025.0	Heating Value of the liquid or gas. This parameter is copied to the corresponding Meter Run's Heating Value (TLP: 47, X, 17) for use by the active flow calculation.
8	Heating Value Source TLP	R/W	TLP	3	Any valid floating point type TLP	0,0,0	Specifies the source TLP for the Heating Value. 0,0,0 = Manual entry, T,L,P = parameter that will be copied to the above Heating Value Parameter.
9	Viscosity	R/W	FLOAT	4	Any valid floating point value	6.899E-06	Viscosity of the liquid or gas. This parameter is copied to the corresponding Meter Run's Viscosity Parameter (TLP: 47, X, 18).

Point Type 27: Generic Props Setup

Parm #	Name	Access	Data Type	Length	Range	Default	Description of functionality and meaning of values
10	Viscosity Source TLP	R/W	TLP	3	Any valid floating point type TLP	0,0,0	Specifies the source TLP for the Viscosity Value. 0,0,0 = Manual entry, T,L,P = parameter that will be copied to the above Viscosity Value Parameter.
11	Specific Heat Ratio	R/W	FLOAT	4	Any valid floating point value	1.3	Specific Heat Ratio of the liquid or gas. This parameter is copied to the corresponding Meter Run's Specific Heat Ratio Parameter (TLP: 47, X, 19) for use by the active flow calculation.
12	Specific Heat Ratio Source TLP	R/W	TLP	3	Any valid floating point type TLP	0,0,0	Specifies the source TLP for the Specific Heat Ratio Value. 0,0,0 = Manual entry, T,L,P = parameter that will be copied to the above Specific Heat Ratio Parameter.

If you have comments or questions regarding this manual, please direct them to your local sales representative or contact:

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